



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,859	09/05/2003	Matthew P. Dugas	14318.04	8573

7590 06/17/2005

Devan V. Padmanabhan
DORSEY & WHITNEY LLP
50 South Sixth Street, Suite 1500
Minneapolis, MN 55402-1498

EXAMINER

SIEFKE, SAMUEL P

ART UNIT	PAPER NUMBER
----------	--------------

1743

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,859

Applicant(s)

DUGAS ET AL.

Examiner

Samuel P. Siefke

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/22/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2-21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,616,895. Although the conflicting claims are not identical, they are not patentably distinct from each other because the '895 patent claims nano-scale thickness disposed on a substrate whereas the current application claims a thin film disposed on the substrate. Therefore, the instant claims are fully encompassed by the patented claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1743

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Branton et al. (USPN 6,627,067).

Branton discloses an apparatus for evaluation of a polymer molecule that comprises a solid-state membrane having an aperture therein defining a channel, passageway or opening. The aperture walls are made up of an insulating material. Means for causing the monomers of a candidate polymer molecule to linearly traverse the aperture in single-file order is provided, whereby the polymer molecule interacts with the aperture. A detector is used to identify time-dependent or monomer-dependent interactions of the molecule with the aperture. Additionally, an amplifier or recording mechanism may be used to detect changes in the ionic or electronic conductance across the aperture as the polymer traverses the opening (col. 7, line 59-col. 8, line 6). A first and second electrodes adjacent to or bordering the aperture serve as detectors. The electrodes are positioned so as to monitor the candidate polymer molecules that translocate the aperture (col. 8, lines 21-25). The aperture of the invention is located in a solid-state membrane. The solid state membrane is chemically inert and/or resistant. Exemplary materials include, silicon nitride ($\text{Si}_{3.3}\text{N}_{4.4}$), alumina ($\text{Al}_{2.2}\text{O}_{3.3}$), and silica ($\text{SiO}_{2.2}$), or plastics such as Teflon or elastomers such as two-component addition-cure silicone rubber. The aperture may be sized to permit

Art Unit: 1743

interaction of a single-stranded or double-stranded molecule, i.e., the aperture is of a diameter that is similar to the atomic width of the polymer molecule of interest. The membrane may be conducting, in which case, the walls of the aperture may be coated with an insulating layer (col. 8, lines 38-67). An insulating layer is then deposited on the walls of the aperture that is suitable to provide the desired insulating properties and the desired final channel diameter dimensions. The solid-state membrane containing the aperture is provided with a conductive, i.e., metallic, layer or thin film that serves as an electrode. The conductive regions are in close proximity to the aperture for high local sensitivity to conductance or electronic variations in both the transverse (along the channel) or longitudinal (across the channel opening) directions. The electrodes may be used in conjunction with either ionic or electronic sensing, as is described herein. Branton further discloses a conductive layer on the membrane that is separated into two electrodes by the formation of the aperture and forming conductive layer above and below the membrane thereby forming four electrodes upon forming the aperture. See also (fig. 5a, 8a, 8b, 15; col. 3, 4, 7, 8, 9, 13, 14, 15).

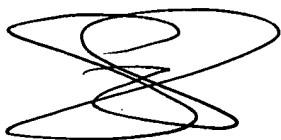
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel P. Siefke whose telephone number is 571-272-1262. The examiner can normally be reached on M-F 7:00am-5:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1700. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam P. Siefke



June 9, 2005


Jill Warden
Supervisory Patent Examiner
Technology Center 1700